

IN THE CLAIMS

Please amend the claims as follows:

1. (original) Method of producing a semiconductor device comprising:
 - a) providing a semiconductor substrate,
 - b) making a first amorphous layer in a top layer of said semiconductor substrate by a suitable implant, said first amorphous layer having a first depth,
 - c) implanting a first dopant into said semiconductor substrate to provide said first amorphous layer with a first doping profile,
 - d) applying a first solid phase epitaxial regrowth action to partially regrow said first amorphous layer and form a second amorphous layer having a second depth that is less than said first depth and activate said first dopant,
 - e) implanting a second dopant into said semiconductor substrate to provide said second amorphous layer with a second doping profile with a higher doping concentration than said first doping profile,
 - f) applying a second solid phase epitaxial regrowth action to regrow said second amorphous layer and activate said second dopant.

2. (original) Method according to claim 1, wherein said semiconductor substrate is a Si substrate and action b) is performed with at least one of Ge, GeF₂, Si, Ar or Xe atoms.
3. (original) Method according to claim 2, wherein said action b) is performed with Ge in a dose of 10¹⁵ atoms/cm² and an energy between 2 and 30 keV.
4. (currently amended) Method according to ~~any of the preceding claims~~claim 1, wherein said action c) is performed with at least one of B, P, As and In at an energy between 3 and 10 keV, and a dose of 10¹⁴ atoms/cm².
5. (original) Method according to claim 5, wherein action d) is performed at a temperature of 550-750 °C during a few seconds.
6. (currently amended) Method according to ~~any of the preceding claims~~claim 1, wherein said action e) is performed with at least one of B, P, As and In at an energy between 0.5 and 3 keV, and a dose of 10¹⁵ atoms/cm².
7. (currently amended) Method according to ~~any of the preceding claims~~claim 1, wherein prior to said action b), an initial dopant

is implanted to provide a HALO implant area extending deeper than said first amorphous layer.

8. (original) Semiconductor device made by a solid phase epitaxial regrowth technique, comprising a semiconductor substrate with a first area having a first conductivity profile and a second area having a second conductivity profile, the second area having a thickness of 6-12 nm and being located adjacent to a top surface of said semiconductor substrate, and said first area having a thickness of 2-6 nm and being located adjacent to said second area, said second conductivity profile having a lower conductivity than said first conductivity profile.

9. (original) Metal oxide semiconductor device comprising a device as claimed in claim 8.

10. (currently amended) Apparatus provided with a semiconductor device as claimed in claim 8 ~~or 9~~.